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The Director of Central Intelligence

Washington, D.C. 20505

National Intelligence Council

NIC 04238-85
22 August 1985

MEMORANDUM FOR: Director of Central Intelligence
Deputy Director of Central Intelligence

FROM:
Assistant National Intelligence Officer for Economics

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SUBJECT: Soviet Plans to Reduce Oil Exports

1. The Petroleum Intelligence Weekly reported this week that some oil importers in Western Europe were informed that Soviet crude oil contract deliveries will be reduced in September. PIW speculates that the cut will average 30 percent of deliveries or 350,000 b/d (worth about \$3.2 billion annually).

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-- Such a reduction would be consistent with 400,00 to 450,000 b/d decline in Soviet output reported so far this year.

2. The decline in production and exports will likely continue and may accelerate.

- The Soviets have rushed repair crews into the older west Siberian fields, which account for 60 percent of production, in an attempt to slow the decline -- these crews now outnumber oil field personnel by two to one in some areas.
- Equipment shortages are preventing them from bringing wells back on line, however.
- Domestic oil consumption is not declining significantly even though the Soviets are pushing conservation measures and increased use of gas by 200,000 b/d oil-equivalent in the first half of 1985.

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3. The more immediate implications of an oil export decline may relate to Eastern Europe.

- The Soviets have adequate hard currency reserves and substantial leeway to reduce unnecessary imports to weather export declines for some time -- at least one to two years and probably more.
- Moscow may, however, try to make across-the-board adjustments, including forcing customers in Eastern Europe to take additional cuts in oil deliveries.
- The East European countries are already operating on substantially reduced oil imports, and further cuts could affect industrial production.
- Aside from East Germany, the Eastern Bloc does not have the financial capability to purchase oil in any quantity for hard currency.



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Attachments:

- A. Petroleum Intelligence Weekly - August 19, 1985
- B. USSR Review: March/April 1985
"Soviet Oil Production: Short-Term Outlook"

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FOUNDED 1961. Vol.XXIV No.33

August 19, 1985

PETROLEUM INTELLIGENCE WEEKLY®

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Soviets Again Slash Oil Exports To Western Customers

Recent cutbacks in Soviet oil exports may not be just temporary. A one-third cut in contract crude supplies to all customers is expected to begin in September for an indefinite period. Some big customers believe exports may drop as much as 50%. The Russian problem with reduced production is being passed on directly to export markets (PIW Aug. 12, p.2). Output is running about 450,000 b/d below year-earlier levels, and analysts believe local stocks are low, while domestic demand is flat or rising. A 30% cut in crude exports from last year would mean a 350,000 b/d reduction in sales to OECD countries. The Soviets haven't given official notice of an across-the-board cutback, but verbal advice has been received by some buyers. Several customers are already down by one-third, and a few have received no oil at all this year. Cutbacks are also affecting products, particularly gas oil.

Reduced supplies are accompanied by more competitive pricing for Urals crude. Most customers in North Europe and the Mediterranean are now paying \$26 a barrel, which is at least 10¢ below current spot levels. Prices are still determined on a cargo-by-cargo or half-monthly basis, but more stable markets could allow a return to traditional monthly prices. July prices were \$25.50-\$25.75.

Europe is undoubtedly hardest hit by reduced Soviet supply, but buyers there aren't worried. They are confident crude will be available from other sources and are already used to relying on other sour oils.

Rising Product Trade Forcing Big Changes In World Refining

Current major changes in worldwide refined products trade will add very little additional volume to the import flow into the US and Western Europe, but the impact of this increase on refiners is likely to be disproportionately large, a new study warns. Product imports may be close to peaking in the US and growing slowly in Europe, but the influence on prices and market share — when added to existing problems such as the US phase-out of lead in gasoline — could force closure of another 1-million b/d of US refining capacity and 2.7-million b/d in Europe, report consulting engineers Purvin & Gertz (p.8). "At the very least," they say, rising product imports "tend to hold product prices down." Worldwide product prices are likely to come into equilibrium, based on transport costs from competing sources, explains Thomas J. Manning, a principal author of the study. This will add to the margin squeeze on already struggling European refiners. It could prove "disastrous" to many independent US refiners, particularly those having to cope with a lack of assured market outlets, high crude costs, low runs and either insufficient upgrading or new units built with borrowed money.

World products trade is shifting increasingly from predominantly residual fuel oil to gasoline and middle distillates, bolstered by the publicized flow out of the Middle East that this year will move that area ahead of Latin America as the world's largest products exporting source. The centrally planned economies (Soviet bloc and China)

PUBLISHER: Wanda Jablonski. Editor: Marshall Thomas. Executive Editor: Kenneth Miller. Fifteen staff editors. Subscription Price: \$995 airmail annually. HEAD OFFICE: One Times Square Plaza, New York, N.Y. 10036. Telephone: (212) 575-1242; Telex: 62371 Petroin; Facsimile Phone No. (212) 391-3906. LONDON: 121-123 Charterhouse Street, EC1M 6AA; Phone (01) 608-1321; Telefax: 608-1324. PARIS: 54 Rue de Varenne, 75007; Phone (1) 222-4860.

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Other Topics

USSR REVIEW MARCH/APRIL 1985

Soviet Oil Production: Short-Term Outlook

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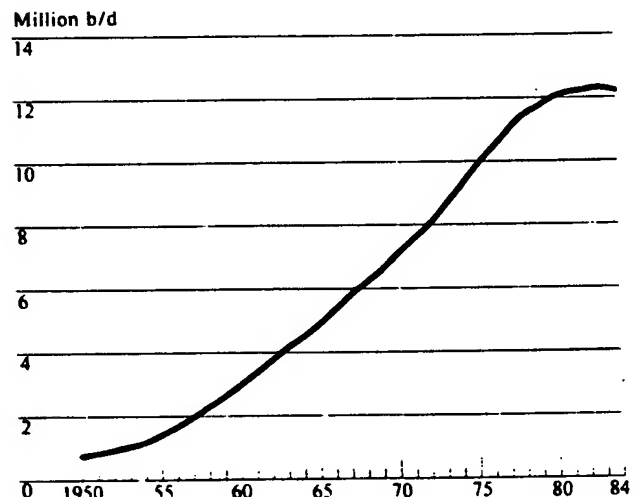
Posting its first annual decline since World War II, production of Soviet crude oil and gas condensate slipped to 12.23 million barrels per day (b/d) in 1984. The decline—by 100,000 b/d—from the rate in 1983 reflects a host of problems associated with the advanced age of most of the USSR's largest oilfields, and it may continue. With West Siberian oil production stagnant or possibly declining and output in other regions falling, a nationwide decline of about 200,000 to 300,000 b/d is possible this year. If it occurs, the Soviets might have to cut back their net exports for hard currency if they are to satisfy domestic oil requirements and maintain their exports to Eastern Europe.

The Soviet leaders recently implemented a series of personnel and administrative changes that reflect distress over the oil industry's problems. A large number of production managers in West Siberia were fired, and Nikolay Mal'tsev was replaced as Petroleum Industry Minister by Vasiliy Dinkov, who as Minister of the Gas Industry scored notable successes in the rapid development of West Siberian natural gas production. Vladimir Filanovskiy-Zenkov, chief of the oil and gas section of the State Planning Committee (Gosplan), will be Dinkov's new deputy. No new combination of administrators, however, is likely to restore growth in oil output.

Background

Soviet oil production soared for three decades—from 750,000 b/d in 1950 to a record 12.33 million b/d in 1983 (figure 1). The ready availability of oil in turn prompted a massive conversion of Soviet industrial facilities from coal to oil.

Figure 1
USSR: Oil Production, 1950-84



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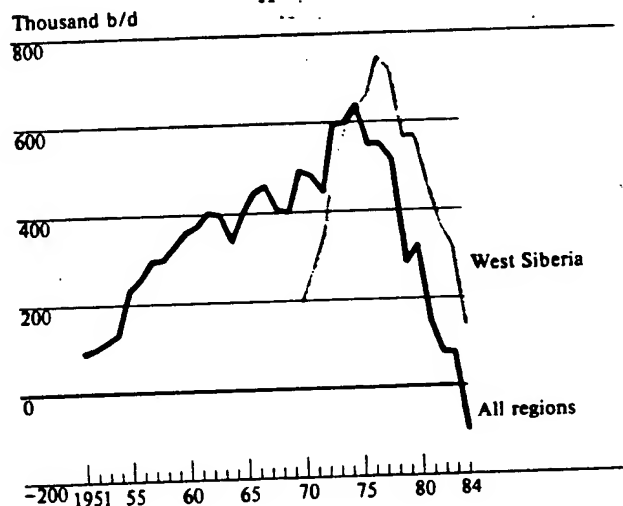
The period was characterized by annual production increments of generally increasing size until 1975, after which growth tapered off (figure 2). Oil output reached 12.03 million b/d in 1980 and inched up to the 12.33 million b/d posted in 1983.

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Figure 2
USSR: Year-to-Year Change in
Oil Production, 1951-84



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In 1984, production in West Siberia's Tyumen' Oblast increased by only 140,000 b/d—about 200,000 b/d less than the planned increment. This was too little to cover the declines in oil output elsewhere in the USSR, let alone provide for any net growth in oil output nationwide. The overall result was the drop of 100,000 b/d.

High-Level Concern

The slowdown in the growth of Tyumen' production and the region's below-plan performance in 1983 and 1984 caused consternation in Moscow and brought West Siberian operations under high-level scrutiny. In late 1983, leading officials from Gosplan, the oil ministry, and the Communist Party mounted an on-site investigation. Early in 1984 the depth of leadership concern was shown by the assignment of a deputy oil minister as chief of oil operations in Tyumen'. The continuing dissatisfaction culminated in the firing of most of the managers of the region's production associations late in the year and the replacement of Mal'tsev in February 1985.

in an unprecedented move to improve efficiency, two major organizations that control oil operations in the European USSR have been given responsibility for three West Siberian production directorates.

In a parallel effort, the party apparatus is focusing on mobilizing Tyumen' workers to meet oil and gas production plans. Vladimir Dolgikh (candidate member of the Politburo and party secretary concerned with energy matters and Siberian development) has cited poor management as a basic problem. Oil officials, he said, had failed to foresee the growing requirements for artificial lift and to provide for adequate maintenance and logistic services. Dolgikh attributed part of the failure to laxity on the part of local party units and called upon party members to coordinate their activities more effectively.

Problems in Tyumen'

The most serious technical problems affecting Tyumen' oil production are occurring in the production associations that manage Samotlor and Federovo, two of the largest oilfields in the USSR. Difficulties are accumulating, especially those associated with water injection systems and the sharply rising water content of fluid recovered from producing wells. Samotlor's pressure-maintenance and oil-gathering systems, for example, have severe corrosion problems. The oil flow lines leak, and the lines for the waterflood system are so corroded that full pressure cannot be maintained. With the average water-cut (the percentage of water in the fluid produced from oil wells) estimated to exceed 50 percent, oil production is declining at both fields.

Bright expectations for a newly developed area north of Federovo apparently have dimmed.

serious production shortfalls and some newly drilled wells were not flowing.

Many wells at the Sutorminsk field have been switched over to pumps far earlier than was envisaged in the original development plan. If the reservoir characteristics in nearby oil deposits resemble those at Sutorminsk, oil extraction from the whole new area may require more wells, equipment, manpower, and time than the planners anticipated.

What Went Wrong

The shortfall in West Siberian production can be traced in part to overoptimism: the quality of the newly exploited reserves has not met official expectations. Another factor is the failure of Soviet industry to supply pumps and other oilfield equipment in adequate quantity and quality. As a consequence, Soviet planners and oil industry leaders are falling behind in the race against rising investment and manpower requirements. [redacted]

Lower Well Flows

Last April [redacted] many Soviet oil wells had stopped flowing naturally, and the oil now had to be "extracted," literally—pulled out of the ground. To do this [redacted] the production associations had to have special equipment (pumps, workover rigs, and tools) in amounts and kinds that they were not receiving. The situation is particularly serious in Tyumen', where some of the new wells will not flow. [redacted]

[redacted] recent experience shows that the initial Soviet reserve estimates for the Tyumen' oilfields were exaggerated and the estimated recovery rates were too high. [redacted]

When Soviet oil industry planners and managers continue to use such estimates (which understate the difficulty of reaching production goals) as a basis for ordering equipment and allocating manpower, production shortfalls are inevitable. The original planning error is then exacerbated by frequent failures in equipment, electricity supply, and logistic support. [redacted]

Rising Requirements for Investment and Manpower Since 1980

[redacted] alarming decline in the average flow of new wells—from 1,183 b/d in 1975 to 518 b/d in 1980 and an estimated 277 b/d in 1981-85. In late 1982 [redacted]

[redacted] to achieve a 20,000-b/d increase in oil production (allowing for normal depletion rates), the USSR had drilled 265,000 meters of wells in 1970 and 866,000 meters in 1980, but would have to drill 7 million meters of wells in 1985. [redacted]

A fundamental factor underlying many of the oil industry's production problems is the increasing age of the oilfields. The dozen largest fields in West

Siberia have been in operation for 12 to 15 years. Giant fields play a vital role in maintaining steady growth in total output even though their production slows down after a decade or so of exploitation. As oil is extracted, the natural reservoir pressure declines, reservoir permeability tends to decrease, and the water-cut increases markedly. These changes speed up the use of artificial lift, and pumps break down more frequently because of corrosion and the buildup of salts in the well bore. [redacted]

Such conditions multiply the requirements for well maintenance. Tyumen', however, [redacted] a shortage of 100 workover crews in 1984. Furthermore, in the hostile Tyumen' environment each workover crew is expected to maintain 55 to 85 wells scattered over difficult terrain, whereas in the mild climate of Baku a single crew looks after 29 wells. The lack of appropriate maintenance in West Siberia results in idle wells and lower production there. [redacted]

Oil production planning is fraught with uncertainty even under the best of circumstances. It appears, however, that Soviet planners have repeatedly missed windows of opportunity for timely and efficient acquisition and use of equipment. A glaring example of ineptitude [redacted] In 1980 the Tyumen' oil administration submitted a 1985 production goal of 6.8 million b/d, using this figure as the basis for its equipment orders and investment plans. Moscow raised the goal to 7.5-7.6 million b/d but did not allocate additional funds, equipment, or manpower. On the contrary, in December 1984 [redacted] the administration's investment allocation was reduced for unspecified reasons. [redacted]

Outlook

Soviet oil output in 1985 probably will be well below the planned 12.56 million b/d—it may not even match the 12.23 million b/d posted in 1984. [redacted]

[redacted] Daily oil production in the first quarter of 1985 was 11.92 million barrels, a figure well below the planned level and 300,000 b/d below the average production level [redacted]

achieved in 1984. With oil production in the key West Siberian region growing less rapidly—and possibly flattening out or even declining—we estimate that a further decline nationwide is possible this year. Efforts to check the decline will become progressively more costly in terms of manpower and investment resources. [redacted]

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In the longer run, the USSR will have to reconsider its Long-Term Energy Program, which postulates that nationwide production of crude oil and gas condensate will hold steady at a high level through the end of the century. Given the situation in West Siberia, the leaders may find that to carry out these plans they would have to divert to the oil sector an unacceptably large share of national investment. [redacted]

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Last year, Moscow was apparently able to raise exports by increasing reexports of OPEC oil, trimming domestic consumption, and drawing down domestic stocks. If production shortfalls are larger in 1985, Moscow may be unable to satisfy domestic oil requirements and maintain exports to Eastern Europe without some cutbacks in net exports for hard currency. The Soviets have sold very little oil on the spot market since January, and they suspended shipments to many West European and Japanese customers in February and March. Some exports were reported in late March, but at a slightly lower level than a year ago. Whether the Soviets will be able to maintain or increase sales during the rest of the year is unclear at this time. [redacted]

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